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ABSTRACT

This volume is part of a series that is designed to promote stronger ties between the educational resources in the Northeast and Midwest and the economic development process. The discussion identifies steps that businesses, education communities, and public policymakers can take to define literacy standards and raise basic competency levels in reading, writing, and mathematics. It argues that programs to improve literacy can also increase employment and productivity in the economy. The first chapter looks at the dimensions of the literacy problem in the United States, including the particular case of dislocated workers. Chapter 2 describes some responses of employers to illiteracy. Recommendations are made for actions by company officials. Chapter 3 groups actions that schools and public agencies can take in two categories: improve the assessment capacity and increase the flexibility of educational institutions. Recommendations are listed. Chapter 4 discusses state and federal responses to the problem. A bibliography is appended. (YLB)

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# Literacy at Work

## Developing Adult Basic Skills for Employment

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Paula Duggan

Northeast-Midwest Institute
The Center for Regional Policy

Education-Economic Development Series

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# 2

# Literacy at Work

Developing Adult Basic Skills for Employment

Paula Duggan

Education-Economic Development Series

Northeast-Midwest Institute: The Center for Regional Policy

1985

## Northeast-Midwest Institute: The Center for Regional Policy

David S. Harrison, Executive Director

The Northeast-Midwest Institute is a private, nonprofit organization devoted to research and public education on issues of regional concern. Since the Institute was established in 1977, its primary goal has been to insure that federal policies are geographically equitable and responsive to the needs of the 18-state region that long has formed the nation's industrial heartland. The Institute's primary constituency is policy-makers from the Northeast and Midwest. Business and labor leaders and members of the press from all regions also make extensive use of its work.

The Institute is unique among Washington policy centers because of its close working relationship with the Northeast-Midwest Congressional and Senate Coalitions and its strong ties to state officials in the region. These important constituencies insure that the Institute's agenda addresses the needs of the region and, equally important, that its work will have an effect on national policy.

The Institute's research program provides timely analyses of current and pending federal legislation to members of Congress, state and local officials, and other groups. These studies provide a regional perspective on the consequences of national policy choices in a wide range of issue areas. Institute publications also identify important resources and options for policy-makers. The conclusions and opinions expressed in these publications are those of the authors or Institute alone.

The states in the region served by the Northeast-Midwest Institute are Connecticut, Delaware, Illinois, Indiana, Iowa, Maine, Maryland, Massachusetts, Michigan, Minnesota, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, Rhode Island, Vermont, and Wisconsin.

For further information on the Northeast-Midwest Institute and its publications, write:

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# Preface

Adult illiteracy and its effects in the workplace constitute a chronic problem of growing concern in public policy debates. Illiteracy has a direct bearing on the economy—marginal or functional illiterates often have difficulty finding and holding jobs, and their skill deficiencies create costs for companies.

The phenomenon of workers displaced from their jobs presents a practical case of the complex interaction of literacy and the demands of the workplace. "Dislocated workers" have work histories, often long ones, and skills. But frequently they have difficulty finding new jobs because their basic skills in reading and computation are too limited for today's labor market.

Industry now demands higher levels of attainment in basic education than ever before. Advancing technology brings higher skill requirements. Prospective employers now place greater emphasis on "credentials." For job seekers, the result is the same: employers demand an improvement in the level of basic skills in their employees.

The following discussion identifies steps that businesses, education communities, and public policy makers can take to define literacy standards and raise basic competency levels in reading, writing, and mathematics. It argues that programs to improve literacy also can increase employment and productivity in the economy.

Employers know that a literate work force and a robust economy go hand in hand. Economic development depends on brain power. A Task Force on Education for Economic Growth, sponsored by the Education Commission of the States, concluded in 1983 that "... trained intelligence is the chief component of individual and national productivity, of a nation's capacity to innovate, and of its general economic health."[1]

This link between education and economic growth is a compelling concern in the Northeast and Midwest, where education traditionally has given the region's economy a competitive advantage. The region has benefited from high public investment levels in both K-12 and post-secondary education over the last decades. It has an impressive network of public and private universities which have played a direct and substantial role in generating economic growth.

The Northeast and Midwest continue to undergo a fundamental economic transformation. The region's economy is adjusting to change brought about by the internationalization of trade and shifts in technology. Consequently, it has a disproportionately large share of the nation's long-term unemployed—52 percent in 1983—for whom literacy skills are particularly crucial.

Efforts are well underway to spur business expansion and new job creation across the region. The public and private educational systems of these states are essential to their revitalization.

Leadership from the education community and the private sector is indispensable to state and local economic revival.

This is the second volume of a six-monograph series designed to promote stronger ties between the region's educational resources and the economic development process. Focusing on a single critical issue, each monograph is designed as a tool for public policy makers and their counterparts in business and academic institutions to translate available ideas into pragmatic solutions. The series will explore strategies that touch all educational levels, from local K-12 public school systems to higher education.

This education-economic development series is made possible through the generous support of the American Can Company Foundation.

# 1. The Illiteracy Problem in the United States

## Dimensions of the Problem

The connection of literacy to the demands of the modern workplace has become a major concern for employers and public policy makers. A person has difficulty acquiring necessary job skills or even looking for employment in the absence of literacy. Yet evidence continues to mount that illiteracy is pervasive in some segments of the population. The director of one skill training program believes that "illiteracy is the hidden shame in this community."[2] The Northeast-Midwest region of the country has long been noted for having a well-educated and adaptable work force—an asset that has served as an attractive inducement in business location and expansion decisions. Maintaining and enhancing this "edge" is an important part of the effort to build the foundations of economic stability. Literacy is crucial to that effort.

Recent statistics indicate that up to one-third of the adult population—perhaps 60 million men and women—cannot read the front page of a newspaper. The Adult Performance Level study has shown for the past several years that perhaps 20 percent of adults are functionally illiterate—unable to read, write, or compute with the proficiency needed to function in society. Among adults, 16 percent of whites, 44 percent of blacks, and 56 percent of Hispanics are either total, functional, or marginal nonreaders. The National Assessment of Educational Progress, the ongoing study of student achievement, finds that 13 percent of U.S. high school graduates fail to reach reading and writing competence beyond the sixth-grade level. The U.S. Department of Education estimates that 2.3 million people are added each year to the ranks of the functionally illiterate: 1 million teenagers who leave school without elementary skills and 1.3 million non-English-speaking arrivals.

In 1982 Navy officials told the presidentially appointed National Commission on Excellence in Education that one-quarter of recent recruits did not read at the minimum level (ninth grade) needed to understand written safety instructions. Without remedial courses they could not even begin the sophisticated training necessary for modern military service. Based on evidence of this kind of erosion of basic skills, the commission concluded that the United States is "a nation at risk."

This literacy gap exists at a time when changes in the labor market are increasing the premium on communications skills. Employers in service industries expect employees to be able to read and write well—in many occupations these abilities comprise the major part of the job. Many companies are moving to involve employees more fully in planning and organizing work; this kind of worker participation in decision-making calls for good verbal skills. Even in more traditional

manufacturing companies, the content of many jobs is changing; higher levels of reading and writing ability are becoming necessary. One adult illiterate describes the situation aptly:

> ... today, even if you're a janitor, there's still reading and writing involved. Like if they leave a note saying, 'Go to room so-and-so, this and that.' You can't do it. You can't read it. You don't know. And they ain't going to hire somebody to run along and tell people what to do.[3]

Research confirms these recent increases in literacy needs. The Business Council for Effective Literacy found that literacy standards are higher today than they were ten years ago. In the face of these changing standards, 11 percent of today's professional and managerial workers are functionally illiterate, as are 30 percent of semi-skilled and unskilled workers. Workers face more difficult literacy demands on the job than students encounter in high schools; today even blue-collar job manuals and directions average a tenth-grade level of reading difficulty. The requirements of Army job printed materials, for example, range from a tenth- to a twelfth-grade level. While estimates of necessary reading levels for specific occupations are imprecise, several studies have concluded that a twelfth-grade reading level generally defines essential literacy for today. Studies also have found that workers who perform better on reading tests are rated higher in job proficiency and productivity as well.

The link between competitiveness and a literate work force is a compelling reason for concern over the current state of basic skills. Business losses attributable to basic skills deficiencies run into the hundreds of millions of dollars annually because of low productivity, errors and accidents, and lost management and supervisory time. Jonathan Kozol, whose *Death at an Early Age* examined the effects of poor schooling on children, writes in his recent book *Illiterate America*:

> The dollar cost to our society for our neglect of this injustice is intolerably high—$20 billion yearly to support unemployable, imprisoned or disheartened people, and in losses caused by workplace accidents and damage to military equipment, billions more lost in lowered G.N.P. The Federal Government budgets something like $1.65 a year to reach each illiterate adult in our society.[4]

Critical as the problem is for adults of working age, it has intergenerational effects as well. Children's participation in the learning process is related to the educational attainment of their parents; illiteracy thus can be "handed down." The Commission on Excellence in Education exhorted parents to read to their children, help them with homework, and act as role models by reading themselves for both knowledge and pleasure. The commission saw this as one way in which parents could support the work of the schools and improve the educational enterprise. However, many of the people to whom the recommendation was addressed could not read it. One illiterate young mother expressed frustration with the effects of her situation on her children. She said,

> I can't read to them, of course that's leaving them out of something they should have. Oh, it matters. You believe it matters! ... Donny wanted me to read a book to

him .... I tried it one day, reading from the pictures. Donny looked at me. He said, 'Mommy that's not right.' He's only 5. He knew I couldn't read.[5]

A current public service announcement on television promotes the national literacy campaign by picturing a father trying to read a story to his young daughter ... and failing.

The result is a cycle of illiteracy and poverty in which children repeat the life experiences of their parents. Kozol summarizes the problem:

> Illiterate adults are crippled ... in at least three ways. They cannot find employment, which, today more than ever in the past, depends upon a competence that eludes them. They cannot voice their grievances in press releases or in other forms of discourse that might win political attention and response. They cannot help their children escape a comparable fate.[6]

**A Particular Case: Dislocated Workers**

The situation of many dislocated workers—out of work and with slim prospects of reemployment—illustrates the relationship between literacy and jobs. Dislocated workers typically have been on the job and out of school for many years. Most went to work directly from high school, before or after graduating, for a firm (usually manufacturing) at which one of their parents was employed, and expected to stay there until retirement.

Now, however, many of their jobs have disappeared because of international competition, plant relocation, or technological obsolescence. Where new jobs exist, they frequently have different, often higher, literacy requirements. Workers may have to review (or learn for the first time) reading, writing, and basic mathematics in order to *start* the training for more complex jobs. Recognizing and adjusting to this need for competence in basic skills is difficult for dislocated workers who typically complain, "I didn't need it before—why do I need it now." However, remedial education and basic skills instruction can help reemploy some of these workers, thereby strengthening the economy.

Dislocation affects a large number of the unemployed. An ongoing study by the Bureau of Labor Statistics (BLS) found that over 5 million workers were dislocated from 1979 to 1984. The high incidence of long-term unemployment in the Northeast-Midwest region signals the existence of disproportionate numbers of dislocated workers in these states. In 1983, 44 percent of the unemployed in the region were out of work for 15 weeks or more. Also, dislocation has been especially pronounced in industries historically central to the region's economy, such as manufacturing and mining. Plant shutdowns and mass layoffs have become frequent occurrences.

According to the BLS study, many dislocated workers had been in their jobs for relatively long periods—nearly one-third for 10 years or more. By January 1984, 60 percent of these workers had found new employment and about 25 percent were looking for work; the remainder had dropped out of the labor force. The BLS survey found that the higher the skill level of the worker, the greater the chance for reemployment. However, of the 60 percent who were reemployed, almost one-half were earning less than

in previous jobs; over 600,000 had taken pay cuts of 20 percent or more.

Prolonged unemployment and underemployment are expensive; economists estimate that each one percent of unemployment costs the federal government $30 billion in outlays for assistance and in forgone revenue. Idled physical plant capacity creates costs for businesses: production is affected adversely by the changed ratio of investment in capital and labor, and profits fall. Increased outlays for unemployment benefits translate into higher unemployment insurance taxes for employers. Unemployment and underemployment drain state and local treasuries and reduce revenues. Tight budgets force cutbacks in services, including cutbacks in education.

Beyond the personal suffering of dislocated workers and their families, these costs heighten the urgency of getting people reemployed as quickly as possible in well-paying jobs. Employers, educators, and governments all have a stake in this effort. Producing a more literate work force is one key to its success.

Some dislocated workers find new jobs on their own; others need training in new skills before they can be reemployed. However, employers, unions, and training program operators have found that many dislocated workers lack the basic literacy skills required for their courses. One assistance center, Downriver Community Conference in Southgate, Michigan, estimates that 30 percent of its dislocated worker clients read at or below the sixth-grade level and need remedial education before they can be retrained. The Career Development Institute at Cuyahoga Community College in Cleveland, Ohio, found that 25 percent of its clients tested between seventh- and ninth-grade levels in reading and math with another 35 percent in the fifth- to seventh-grade levels.

Some journalistic accounts of dislocated workers contain discussions of exciting training programs to prepare people for the jobs of tomorrow. A 1983 article in *High Technology* magazine described the successful robotics repair program operated by the Community College of Allegheny County in Erie, Pennsylvania. Thirty workers were selected from 200 applicants for this program. Most had gone to vocational high schools and 18 had received training in electronics in their military service. Participants averaged ten years of experience in electromechanical repair. The program's director acknowledged that the program intends to train " ... more or less the cream of the crop of the U.S. blue-collar work force."[7] Workers with functional literacy deficiencies would not be chosen for such a demanding program. Press reports have paid scant attention to the needs of a significant number of laid-off workers for remedial instruction to raise the level of their basic educational attainment. Even trainers in private companies and public programs are just beginning to recognize the need.

Costs to the private sector of basic skills deficiencies and the benefits of remediation are not precisely quantifiable. However, there is a growing awareness that the United States is falling short of the goal of a fully literate work force. This awareness must now be translated into action. Business leaders and public policy makers alike acknowledge the positive relationship between literacy and a growing economy.

# 2. Employers' Response to Illiteracy

Employers recognize that the lack of basic skills among Americans is of crisis proportions in many parts of the employment market. And the problem can only worsen, if, as some economists predict, the United States faces impending labor shortages in the coming decade. **Businesses must mobilize their resources to increase employee literacy in ways that are consistent with their own needs for productivity in increasingly competitive world markets**.

The Center for Public Resources, a private, nonprofit organization, surveyed employers nationally in 1982 to determine the extent of basic skill deficiencies among their employees.

- More than one-half the responding companies identified writing deficiencies among their secretarial, skilled labor, managerial, supervisory and bookkeeping personnel. The most frequently cited problems were poor grammar, spelling, and punctuation.
- Over one-half found inadequacies in mathematics in a wide range of employees, from semi-skilled laborers to bookkeepers.
- More than one-half identified deficiencies in speaking and listening skills among secretarial, clerical, service, supervisory, and managerial personnel.
- Over two-thirds noted that basic skills deficiencies limit the company's ability to promote employees, both high school graduates and nongraduates.

The study concluded:

> While school respondees often cited vocational skills as the most important factor in youth employability, the business view was that if schools provided adequately educated youth, business would provide, indeed overwhelmingly does provide, technical training. What business decidedly indicated it did not want to do, but is in fact doing, is to educate its employees in ninth- and tenth-grade skills.[8]

**Companies can provide programs to upgrade their employees' basic skills**. For example, the Planters Peanuts factory in Suffolk, Virginia, offers its workers four hours of elementary-level instruction per week on company time, with additional classes available after hours. Employees can work on basic skills in grade levels 1-4 and 5-8, as well as prepare for the General Educational Development exam which leads to the GED certificate of high school equivalency. Instruction is individualized and the curriculum is designed to meet each person's needs. Planters runs the program with the public schools and the United Auto Workers. Standard Oil Company of Indiana hired a teacher to give courses in grammar and spelling for new secretaries. Polaroid Corporation enrolls 500 to 750 employees annually in remedial programs. In 1983, the Gillette

Company in St. Paul, Minnesota, offered remedial instruction to 30 employees. The company renewed the program in 1984 when it discovered that one in six production workers needed the instruction.

The Conference Board, a network of business leaders which conducts research on the economy and public policy, reported that 20 percent of the nation's banks and insurance companies provide remedial and basic literacy courses to employees lacking the necessary skills. Travelers Insurance Company has had a remedial education program for the past 16 years. By December 1982, 616 Travelers employees had completed the program successfully. Participants receive eight weeks of full-time classroom training, studying math and English as well as basic office skills. Successful completers then spend ten weeks in a combination work-study component, with mornings devoted to classroom instruction and afternoons to on-the-job training. Company officials attribute the program's success to several factors.

- Trainees are Travelers employees from the outset. Therefore, the relationship between completing the training and doing well in the job is clear.
- The physical environment simulates real work situations rather than a classroom.
- Everything taught, including English and math, is shown to be directly relevant to the job. There is a concrete purpose for the learning.
- Participants have access to individual counseling to improve life-coping skills. This service is particularly important to persons with low levels of reading comprehension because they have difficulty with written information.[9]

Although examples can be found, company-sponsored in-house programs focused solely on remediation account for only a small fraction of private-sector training investments. One recent study found that only 8 percent of courses offered by employers during working hours are basic remedial courses. The American Society for Training and Development, an association of private-sector human resources managers, estimates that less than 1 percent of company training funds are spent on remedial education. Even so, corporate participants in a recent series of forums on business and education felt that business is spending too much time and money on remedial training in communications and other basic skills. Typical company programs, such as Travelers, are geared to new entry-level employees and are combined with training in the company's operations. Often they are partially supported by federal job training funds aimed at the disadvantaged. Only very large corporations with major in-house training capacities are likely to find it efficient to cover the entire cost of their own basic literacy training.

The American Telephone and Telegraph Company offers its employees courses in basic reading, writing, and mathematics at an annual cost of $6 million. However, the company's policy shows the cautious approach of most corporations. It calls for a review of the cost and benefits of alternative methods of providing remedial education, such as contracting with community institutions or providing tuition aid. It also calls for assurances that graduates can be placed in jobs before undertaking such training. "In most companies, efforts are con-

stantly being made even to reduce the cost of specifically job related training, so it is small wonder that employers are generally conservative about literacy training for which the cost-benefits are less clear . . . ," said a company official.[10]

Company policy also calls for the definition and measurement of program objectives beforehand. Standards should be set for measuring success in terms of participants' job behavior, not merely their ability to pass tests. Any program should have realistic goals tied to practical business needs—the development and maintainence of a proficient and motivated work force. The program also should be evaluated systematically.

As this policy suggests, **companies may do well to contract with educational institutions or community-based organizations for their employees' remedial needs**. Several Maryland companies, including Baltimore Gas and Electric, Marriott Corporation, and Singer-Link Simulations Systems, contract with the adult education branch of the state department of education for basic skills classes conducted at company sites. Costs are shared by the companies and the adult basic education program.

This approach can be used by companies planning to shut down or relocate. Carter Carburetor Company in St. Louis contracted with the local school system to have adult basic education instructors hold classes in the plant prior to its closing in 1984. In this way the company made a major commitment to helping its employees make the transition to new jobs. In 1983 the Levi Strauss Company helped relieve the potential for dislocation among its laid-off workers in Charleston, South Carolina, by purchasing needed educational services. The company arranged with Trident Technical College for a program of assistance as layoffs began. The program prepared workers for retraining by helping them develop coping skills. They were then given instruction in math, English, and reading. Exercises were designed in individualized units so participants could work at their own pace, even completing them at home. All participants received counselling on career decisions using peer role models. They reported that the basic skills instruction increased their confidence and self-esteem. Only when they overcame their fear of learning and began to feel comfortable with the basics did participants feel ready for skill retraining.

Perhaps the best-known dislocated workers programs are the ongoing efforts sponsored by the United Auto Workers in cooperation with Ford and General Motors. The Ford-UAW model emphasizes the necessity of combining community resources to help the newly unemployed. In the Milpitas plant closing in San Jose, for example, Ford and the UAW contracted with the local adult education office to provide courses at the plant, including remedial math and reading. Eight hundred persons altogether participated in adult education, and 183 received high school diplomas or GEDs. The UAW-Ford program recognizes remedial education as an important, sometimes crucial, component in an overall worker-readjustment strategy. It is this new mastery of the basics that increases workers' self-confidence and opportunities for reemployment. Other dislocated worker programs have duplicated the UAW-Ford approach.

The Kelly Springfield Tire Company realized that an alternative to closing its Tyler, Texas, plant was to convert it and upgrade the basic skills of employees so they could run the new facility. Presently 230 employees take part in the remedial program, which operates during regular working hours and gives full pay for the first 100 hours of participation.

In addition to working on specific literacy needs of their own employees, both current and former, companies contribute to the solution of the national illiteracy crisis by forming partnerships with educational institutions and community-based groups to improve basic skills. The attitude of AT&T toward cooperative projects is typical of many forward-looking businesses.

> Communication between business and education must be greatly expanded. This must take place on a national level, but it is even more important on a local level. There must be a combined effort of business and education to provide the literacy skills necessary for productive employment.[11]

Several models already exist which businesses could adapt to fit their own needs and the particular circumstances of their local communities.

**Companies can commit themselves one-to-one with a particular secondary school.** "Adopt-a-School" programs pair schools and businesses to work on jointly identified problems. While they generally concentrate on school-to-work transition activities, some Adopt-a-School programs focus on basic skills. Some companies provide useful advice to schools on the literacy expectations of the local business community. Corporations with active outreach policies such as IBM and Hewlett-Packard pair company employees with individual students as tutors in reading, writing, and mathematics. B. Dalton Bookseller and McGraw Hill Publishing Company, both active school adopters, have a special interest in the broad goal of a literate society.

Adoptive relationships have other outcomes as well. In some programs one company and one school work together to improve curricula. In other places company employees visit their school to counsel students and provide role models to encourage them to further achievement. Some loan equipment to their schools to ensure up-to-date vocational instruction. Company officials also work with school administrators to improve management.

The Adopt-a-School movement is growing. In Nashville, for example, 30 area businesses have allied themselves with specific schools. In Dallas, over 1,000 businesses have adopted virtually all of the city's more than 200 public schools. In Milwaukee, the Chamber of Commerce manages the process of teaming companies with schools. All activities undertaken in these collaborations are arrived at jointly.

**Companies also must become more broadly involved in policy-making, resource allocation, and planning for their local secondary school systems as a whole.** Business leaders are joining top-echelon educational administrators and contributing their resources, time, and expertise to designing system improvements. Many of these efforts focus on basic skills. The goal is to improve the quality of literacy training in the community's secondary school system so as to raise the average skill levels of new en-

trants into the work force.

Financial investment is one type of system involvement for business. Many corporations have instituted social responsibility programs that include making direct grants to school systems. The John Hancock Mutual Life Insurance Company established a $1 million endowment for the Boston school system in 1985 that will generate $100,000 annually in interest. The system will use some of the income to improve the reading program in the city's middle schools, which enroll 10,000 students.

Companies also can become partners with the education system in planning and policy-making. The Boston Compact is an example of such a community-wide partnership. Executives of major corporations in the city, the administrators of secondary schools, colleges and community colleges, and leaders of community groups make decisions on how best to use all available resources to raise the skill levels of high school students. In return for educational system improvements, the corporations pledge to look first to the city's schools as a potential source of new employees.

The Boston Compact is a true partnership in that responsibility and accountability exist on both sides of the business-education equation. Improvements in the school system translate into jobs for its graduates. Also, cooperation is more than financial; the time and expertise of top executives on both sides are thoroughly engaged. The compact can command this level of involvement because it is a locally generated agreement arising from mutual needs for better performance and because it has the sustained interest and support of the city's political leadership. Other system-wide partnership efforts, including the Oakland Alliance in California and the Portland Partnership in Oregon, have these same characteristics.

These industry-education collaborations concentrate on secondary schools and youth just entering the work force. Many were spurred by the well-publicized critiques of the nation's school systems, especially *A Nation at Risk*, the report of the National Commission on Excellence in Education in 1983. However, the Commission on Higher Education and the Adult Learner pointed out that the excellence commission limited its recommendations to reforms in the education of youth, reinforcing the idea that learning is only for the young and that adults have completed their schooling.

> Yet adults' education needs are at least as great as those of the young and constitute an equivalent obligation for policy and societal action. Clearly, a major effort is required to raise the level of awareness among education providers, government, prospective adult learners, and the general public.[12]

**Companies can target their concern and activities on adult illiterates in the wider community beyond the schools. Businesses should involve themselves in community-based adult literacy efforts and programs in adult basic education**. Company actions are wide ranging. Numerous corporations are contributing funds to public literacy-awareness efforts at national, state, and local levels. The Ashland Oil Corporation provided a major grant through its charitable foundation to the Kentucky educational television network for a campaign

encouraging adults to earn their GED certificates. Viewers will be directed to a variety of programs designed to suit their individual needs—school-based instruction, on-site courses provided by employers, or study-at-home programs.

IBM Corporation makes grants to community-based organizations as part of its commitment to the literacy movement. In 1984, IBM joined with other companies in Washington, D.C., to give financial support to Pursue Literacy Action Now (PLAN), a community-based program to help city residents with basic skills. It also contributed funds to Philadelpia's Center for Literacy to expand adult basic skills services at several tutorial sites around the city.

Companies can encourage their employees to participate in community-based volunteer programs. B. Dalton Bookseller, already involved in many adult education strategies in the 500 communities where its outlets are located, recently undertook a campaign to enlist employees on all levels to tutor adults in basic skills. It hopes to recruit 10 percent of the company's 8,500 employees. A recent company survey showed that over one-half of its regional managers serve on boards and advisory committees of local and state literacy organizations. Recently Time, Inc. expanded its remedial education strategies beyond direct funding for literacy programs to include organizing employee volunteers. Pacific Gas and Electric Company gives release time to employees who tutor students in the basic skills program of the San Francisco Community College District.

Some companies have opened their in-house remedial programs to the larger community. In Winston-Salem, North Carolina, R.J. Reynolds Tobacco Company uses the services of Forsyth Technical Institute to provide an in-plant adult basic education program. The program is open to dislocated workers in the community as well. Classes meet four days a week at times chosen to accommodate day, evening, and midnight shifts and unemployed persons. Treasure Isle, Inc., a Florida shrimp company, set up a small training center on company grounds to upgrade its workers' skills. Now the center is open to all adults in the community. The company pays custodial and utility costs, the county school system provides teachers, and the adult education program furnishes money for supplies and equipment. Since the program began, 300 learners have advanced from functional illiteracy to eighth-grade reading levels.

**Companies can contribute to public awareness of the literacy problem by documenting its scope and impact**. At the national level, several blue-ribbon groups of corporate leaders have announced their concern over basic educational attainment. This national perspective must be brought home to the local level. For example, Standard Oil of Ohio currently is sponsoring a project in the Cleveland area to clarify the extent and nature of the illiteracy problem there and determine what action is needed. In other areas, local Chambers of Commerce could take the lead to study the literacy needs in their communities from a business perspective. Trade associations could assess the occupational structures in their member companies and the literacy requirements of various job categories. This research contribution would be invaluable in raising the level of public debate and suggesting directions for

educational improvement to meet business demands in basic skills. AT&T, in fact believes that,

> Obtaining worthwhile data on abilities needed in jobs is not an impossible task but it is, indeed, a complicated one. Unless jobs can be described accurately in a language which is useful for curriculum development, it may well be useless to discuss adult literacy training.[13]

**Companies also can use their political power and connections to influence decisions on funds and priorities for public institutions**. Business groups already have formed in Memphis, New Orleans, and Cincinnati to work for the passage of tax levies to benefit education. Efforts of individual companies to ease the literacy crisis are important, but in the long run, success will depend on collective efforts to influence policy in state capitals and in Washington. Companies must organize themselves into highly focused coalitions to provide sustained support to the public institutions whose job it is to equip people with the basic skills required by the labor market.

Some employers already have decried basic skills deficiencies in their workers and in job applicants. Others are concerned that employees facing termination lack the elementary skills to find new jobs or take advantage of retraining. At the present time, most companies have ample choices in a slack labor market. Yet in the next decade demographic changes—an aging work force and a pool of younger applicants increasingly comprised of the educationally and economically disadvantaged—could reduce the range of choice. "Literacy for all" is becoming as much an economic imperative as it is a social and cultural one.

## Recommendations

Company officials can:

- identify the literacy requirements of current and future jobs;
- make these requirements known in local business forums, such as the Private Industry Council or the Chamber of Commerce;
- announce these basic skills requirements to schools and training institutions and the policy-making bodies that govern and/or fund them, such as local school committees and elected officials, state legislatures, and the public at large;
- invest in the basic skills of current employees through in-house programs where appropriate;
- contract directly for needed remedial services with programs and institutions that have shown a willingness and capacity to respond;
- organize company employees to tutor individuals in reading, writing, and math by "adopting" a school or organizing a "literacy volunteers" program;
- join community-wide business-education partnerships to improve the overall quality of education for work with better planning and management expertise;
- commit themselves to hire

the graduates of programs and institutions that provide strong basic skills; and

- exercise political clout in support of the public institutions and programs charged with imparting the basic skills needed for work to youth and adults.

# 3. What Schools and Public Agencies Can Do

## Improve the Assessment Capacity

The first step in a comprehensive attack on the problem of illiteracy is identifying who needs help. Many states now require that students pass minimum competency tests in order to graduate from high school. However, many of these tests are "subminimum" in relation to the literacy needs of the workplace or further schooling. Testing in the twelfth grade is too late: literacy problems have their roots in early grades. Alaska, Connecticut, Arizona, Ohio, and Mississippi are among the states that use basic skills testing programs at various levels below the twelfth grade to catch deficiencies soon enough to make a difference.

The National Center for Education Statistics estimates that 25 percent of those entering high school eventually will drop out. A major cause of this phenomenon is the inability of students to read, write, and compute up to grade level. Many of these people will show up later on as adult illiterates. **Early identification and action on the problem is a major unfulfilled responsibility of public elementary and secondary education systems**. It is a sad reflection on these school systems that 25 percent of all college mathematics courses today are remedial. Courses offered most frequently at community colleges are those in remedial reading, writing, and arithmetic. The Task Force on Education for Economic Growth pointed out that:

> . . . the United States no longer teaches the three R's, but the six R's: remedial reading, remedial 'riting and remedial 'rithmetic. It should be our long-range goal to end remedial courses wherever possible: to make them unnecessary—because our schools will have done their work effectively the first time.[14]

The Florida legislature declared in the 1983-1984 session that its public secondary schools, not post-secondary institutions, bear responsibility for remediation. California law proscribes remedial education courses in the state's community colleges.

Identifying adult illiterates is more difficult than testing and offering remedial courses to behind-grade students. Adults find ways to cope. They stick to familiar neighborhoods where reading street signs is unnecessary; they buy groceries by looking at pictures on labels. They get through the work day (if they have jobs) by imitating and copying what others do. Often they ask friends to fill out forms, applications, and tax returns for them.

Employers have difficulty in identifying the marginally literate. Based on the Supreme Court's interpretation of Title VII of the Civil Rights Act, employers cannot give reading tests as part of an employment-screening process unless they can prove that such tests measure the kinds of read-

ing needed for the job. Courts have been stringent in their application of this rule, even though few job-specific reading tests have been developed. Thus people reading at substandard levels find their way into the workplace.

**Public agencies can be enlisted to identify illiteracy and contribute to the effort to overcome it.** Senator Paul Simon (D-Illinois) has suggested that the welfare office and the unemployment insurance office could be used effectively to establish who needs help.

> In the area of welfare, we have to take a look at who signs up. You don't have to ask them if they can read or write. If they can't fill out the form, that ought to be noted. We ought to get help for them. We shouldn't simply be saying we're going to give you a check. A check, yes, but let's give people some help on their problems. Unemployment compensation—the same. A huge number of people are involved and we ought to find the illiterates among them.[15]

Every state has Employment Service offices that also could provide assistance. When the federal government reduced this agency's budget in the early 1980s, the Employment Service (ES) cut back on testing and assessment activities in favor of keeping local offices open. Now, however, these priorities should be reviewed. Those involved in the new (since 1982) ES planning process—especially local elected officials and private-sector business leaders—could explore ways to reprogram available resources to strengthen and expand testing and assessment services. They could, for example, convince state policy makers to target these functions as a priority for discretionary state ES funds.

Adequate assessment is essential to placing adults with basic skills problems, including many dislocated workers, in skill-training programs that match their abilities or into jobs appropriate to their capabilities. When a mismatch occurs, the person is frustrated and the productivity of companies and economic goals of the community are impaired. Corporations such as Digital Equipment have recognized the value of the assessment function in designing skills development programs. Digital uses extensive diagnostic testing to design programs to help their employees realize their full potential in the workplace.

**Community colleges, vocational-technical schools, and other training program operators also must assess more carefully the basic skill levels of incoming students and trainees.** They should guide new entrants into training programs and remedial activities corresponding to their proficiencies. **Educators also should recognize the implicit expectations in these courses of the level of basic skills needed for success.** Recently, two parallel studies funded by the National Institute of Education reached the joint conclusion "... that teachers in community colleges rarely talk with each other about the literacy requirements of their individual courses and programs."[16] Thus public resources may be wasted as those people seeking to improve their employment potential through training and education fail and drop out. Better assessment of basic skills on both sides of the equation—individual attainment and program assumptions—is one key to harnessing the na-

tion's education resources to economic development needs.

## Increase the Flexibility of Educational Institutions

**As the literacy requirements of the workplace mount and the need for adult education grows, businesses look increasingly to educational institutions and expect them to respond**. To meet these demands, schools and colleges must develop more flexible programs and calendars. Traditional classroom models with rigid semester-based schedules and "seat-time" measures of success do not serve illiterate adults, dropouts, or behind-grade youth well. The Commission on Higher Education and the Adult Learner concluded in a 1984 report that,

> Much about postsecondary education is inappropriate for adult learners; within the present system, there is excessive standardization, insufficient individualization, needless repetition, and inadequate recognition of prior learning. State funding formulas are too frequently obsolete, ignoring part-time faculty and off-campus locations, and anxiety about new partnerships hampers collaboration with business, industry, and others with educational needs. What appears to be a golden opportunity for cooperation among education providers is very slow in coming; the higher education establishment must change if it is to be an effective partner.[17]

Community colleges and vocational-technical schools generally adapt to marketplace realities more quickly than traditional four-year institutions. Yet employment specialists fault even community colleges for offering programs that extend over too long a time period, given the daily economic pressures the unemployed face, and that demand reading and mathematical proficiences beyond their present capabilities.

Illiterate adults have radically different educational backgrounds and life situations, which makes it impossible to design one program for all. For example, a plant closing may mean layoffs and dislocation for hundreds of people at once. But they do not arrive at the training institution at once, nor do they have the same needs or require the same amount of time to acquire new skills. **These people make up a large constituency for educational services if the necessary changes are made. Officials of secondary and appropriate post-secondary schools should adapt their institutions to these adult learners**.

Several courses of action lie open for the education community. Educational administrators—academic deans and curriculum planners—can initiate the sorts of changes that will benefit adult learners.

**Educational administrators should structure remedial efforts to relate to possible future jobs, rather than providing basic skills instruction by itself**. For years the Army has defined basic skills as "the academic competencies essential to learning and performing a military job." To achieve this end, the Army has attempted to mesh basic skills instruction with job training. It started a major program in 1980 to improve job performance through a refined approach to basic skill competencies. The program seeks to iden-

tify the basic skill levels needed for training in 94 military service occupations. Competency levels are defined by desired performance on the job, not by reference to years completed in school. New diagnostic tests were developed to analyze tasks, and new curricula currently are being developed to teach basic skills in each job context. According to the Army, these products may be transferable to civilian training and education in related vocational skill areas.

The Boston Private Industry Council favors programs that develop basic competencies and job skills simultaneously. The previously mentioned programs of the Travelers Insurance Company and Downriver Community Conference also use this approach—which recognizes that adult learning occurs more readily on the job or in other practical situations. When remedial instruction is delivered in tandem with skill training, attention is focused on the particular kind of reading or math needed. Remedial efforts become more relevant to trainees, who otherwise may not be aware of basic skills deficiencies. Workers also have greater incentive to learn when there may be a direct payoff in a new job.

The Career Development Institute at Cuyahoga Community College in Cleveland structures its program to guide participants toward making these informational and motivational connections between remedial education and training. Its director insists, "this is *not* an abstract program."[18] In 1982, Portland Community College in Oregon provided instruction in remedial mathematics or math upgrading plus job skills training to a selected number of the city's unemployed residents. A German company, Wacker Siltronic Corporation, helped the college design the program and select the instructors. This guarantee of specially trained workers was a major factor in convincing the company to build its new $60-million plant in Portland. The first 460 production jobs were filled by workers who developed or upgraded their basic and technical skills through the Portland-Wacker partnership. This is a prime example of what an investment in adult learning can contribute to a community's development.

**Administrators should use self-paced, individualized, competency-based methods of instruction and institute open entry-open exit programming.** Participants in self-paced programs begin at their own convenience as soon as they have decided on a course of action. Each person devotes the needed time, but only that, to mastering the course content. For this kind of program to operate successfully, the curriculum should be modular —constructed in discrete units—so that different people can work on different parts at the same time. Ideally, it should be computerized in an interactive mode so students can learn from their mistakes without fear of embarrassment before their peers. In this program design, the teacher is a manager of the learning process rather than an instructor.

Flexible, nonthreatening programs are particularly important for adults, many of whom must overcome psychological barriers and an aversion to schooling caused by earlier failures. Adult workers dislocated from their jobs, who worked for years and never anticipated a return to school, find the freedom and self-reliance permitted by this program design attractive. The Job

Corps, a work preparation program for very disadvantaged youth, is the most systematic user of this type of educational programming. While the Levi Strauss-Trident program previously cited trained dislocated workers this way, too few Job Corps instructional methods have been adopted in mainstream educational institutions.

The city of Cleveland operates a successful remedial reading program developed when it found in 1982 that 50 percent of the disadvantaged unemployed population over the age of 25 was functionally illiterate. Cleveland's program, budgeted at $1.2 million for 1985, uses Control Data Corporation's computerized "PLATO" system to prepare the disadvantaged for jobs requiring a high school education. The program proceeds in three stages. Those with skills below the sixth-grade level go through a remedial program that aims to move them up two grade levels in ten weeks. Participants then are ready for training and job-directed remediation. After 12 weeks, they prepare for the GED examination and high school equivalency status. The state of Ohio currently is planning to spend $3 million of its federal job training funds to replicate this program in other cities.

**Educational administrators should seek the expertise and support of the business community regularly to solve basic skills problems.** The current patchwork quilt of adult education programs needs a focal point to capture business attention. Employers may need a new institutional structure around which to frame their involvement in adult literacy efforts. Schools should organize the existing piecemeal efforts in remedial and adult basic education into a coherent system. With a more clearly defined structure, the business community would have a more direct avenue for its views, recommendations, and assistance.

Educational administrators also can obtain private-sector help through their local Private Industry Councils—organizations of leading community employers. These councils decide on appropriate uses of federal job training funds for disadvantaged youth and adults and, in some cases, for dislocated worker programs as well. Involvement with a PIC offers educators the opportunity to understand local employers' expectations and problems with basic skill levels. They also can get advice on how schools could improve their product and better tap into the hiring process. Cooperation also gives educational administrators a chance to market education services to employers. In demonstrating how schools can fill the training and remedial education needs identified by the PIC, schools can become "delivery agents of first resort" for PIC-sponsored programs.

St. Louis Community College and the Private Industry Council designed the Metropolitan Re-Employment Project to help dislocated workers find new jobs. It started with private-sector contributions and funding from the Job Training Partnership Act and the Fund for the Improvement of Post-Secondary Education in 1981. In its first year of operation, the project found that less than 2 percent of laid-off workers were seeking retraining or further education on their own. Each dislocated worker believed, "I'm not the sort of person who needs that sort of thing." But assessment showed that nearly 20 percent of its potential clients were reading at only a fifth-grade level.

The project expanded its activities to provide testing, assessment, and counseling and made referrals to adult basic education courses in community colleges and high schools (as well as to retraining programs and new jobs). The college-PIC collaboration has provided a myriad of services to 5,000 workers in the last four years. Funding for the project continues with the help of Civic Progress, an organization of the chief executive officers of the largest corporations in St. Louis.

The public response to the literacy crisis involves numerous institutions and individuals in the education and training communities: the Employment Service, community colleges, secondary schools, training programs, Private Industry Councils, and so on. The success of their activities has an effect on the ability of local businesses to fill their labor needs and compete successfully. Companies have a stake in literacy levels and must be enlisted in the basic skills battle. Public institutions have their own mandate for action as well.

## Recommendations

Educators and trainers should:

- assess both basic skill levels of those seeking training and identify the levels needed for success in training courses to assure a match between them;
- provide remedial and literacy instruction as necessary;
- organize the array of adult education and remedial programs to make them comprehensible and accessible for companies and the public;
- make remedial activities relevant to participants' job goals and employment prospects;
- institute open entry-open exit, self-paced, competency-based programming to make educational services appropriate and attractive to dislocated workers and other adults in need;
- seek business recommendations, support, and assistance by organizing employer committees or joining the Private Industry Council; and
- join community-wide business and education partnerships to invest in the improvment of the overall quality of education for work.

# 4. State and Federal Responses to the Problem

State policy makers must play their part in strengthening the basic skills of their citizens to ensure a strong work force base for economic growth. They set the context for local action even though actual services—literacy training and remedial programs in reading, writing, and math—are delivered locally. **State policy makers can promote greater recognition of and commitment to solving the literacy problem. They can combine state and federal aid to maximize resources available for the effort**. The national call for educational reform has led every state to take some steps for change. More than 250 state task forces have sprung up to date to study every aspect of education. Most have focused on the achievement of youth in secondary schools; few have devoted attention to the issue of adult literacy and the remedial efforts necessary to achieve it.

**Governors should take the lead by establishing as state policy the goal of a fully literate work force**. Business recognizes it as an essential part of a favorable climate for economic growth. Robert Orr, governor of Indiana, recently signaled his understanding of this connection. "I see the Indiana Literacy Initiative as helping us not only with our fight against illiteracy, but with our overall economic development strategies as well," he said.[18] Governors could engage the state's business and educational leaders in examining the extent of literacy needs and recommending action. These leaders might be charged with developing a resource inventory of literacy programs, both company-sponsored and publicly funded, around the state. Communities and companies then could use this information to locate program models appropriate to their own circumstances and share ideas and experiences with other program managers. Such a network of data and people could become an important service to business from the state's economic development arsenal.

**State legislatures should assure adequate appropriations for adult literacy programs**. States now provide over one-half the funding for local education. State legislators are in constant communication with local business and educational leaders. Legislatures thus are well positioned to champion the cause of adult literacy. Business leaders should make known to the appropriate legislative committees their views on the soundness of the educational enterprise and its products, and the extent to which they match workplace needs.

**Federal policy makers in Congress and the executive branch should sort out competing claims for scarce federal education funds and focus them on true national priorities**. Congress should direct federal spending in vocational and adult education to leverage improvements in program design and services for population

groups in particular need, such as illiterate adults. Federal aid-to-education acts should enable state and local efforts to meet the important national goal of a fully literate work force, rather than dictating and specifying minutely how this goal is to be accomplished.

**State education officials should examine how federal education resources, such as vocational education and adult education funds, are spent.** These officials—chief state school officers and members of state boards of education—can work for the integration of these resources with state and local spending to produce a comprehensive system of work force preparation programs. They should analyze how effective those federal funds are in enhancing and improving ongoing state efforts, and how they might better be used to improve adult literacy. They should look particularly at how these education-oriented funds can be used to complement job training programs.

**State officials responsible for the Job Training Partnership Act (JTPA) should look for the most effective uses of this law's various sections.** Title III of JTPA directs funds to states for the establishment of programs of training and reemployment assistance for dislocated workers. State JTPA administrators can make sure their state's JTPA-funded dislocated workers projects contain sufficient education components. They should direct more of these funds to remedial efforts, if appropriate. Title III officials also could tap educational sources to complement job training programs. If federal Title III funds must be matched with state contributions, remedial education activities might provide the source. Another section of JTPA provides that 8 percent of the state's allocation for Title II should be used for educational services and coordination. State officials responsible for this set aside could use the 8 percent funds for more adult remedial education and encourage similar efforts in the education community.

The Carl D. Perkins Vocational Education Act of 1984 contains provisions that commend it to state education and training officials. It authorizes funds for coordinated services and activities between vocational education and the JTPA dislocated workers program. It also allows the use of funds for upgrading the skills of workers threatened with dislocation. Joint programs focused on improving basic skills in the course of vocational training would be a practical way to implement these legislative priorities.

A third part of the Job Training Partnership Act establishes a special fund of 10 percent of a state's allocation for the Employment Service. This set aside, aimed at local program improvements, could provide the means for strengthening the assessment and testing capacity of the Employment Service. The special needs of illiterate adults and the dislocated workers among them would be well served by this use of funds.

**State employment and training officials can tap the expertise of business leaders on the State Job Training Coordinating Council**, the governor's advisory committee for the Job Training Partnership Act. These private-sector members know the work force needs of the state's employers and any literacy problems that may exist. They can take the lead in achieving the kind of education and training system that the state's economy

requires for growth.

State and federal policy can spur local action to benefit the efforts of employers and educators. By enlisting the state's business leaders in making literacy an essential part of state development goals, governors can rally local companies. Legislators can highlight the need as they design and oversee state aid-to-education budgets. Congress can do the same as it sets priorities for federal spending. Those who administer federal categorical funds in education and training can work jointly to make their programs complementary to each other and to state, local, and private-sector remedial activities.

## Notes

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